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INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference PH/5-70109A	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/EP 03/08791	International filing date (day/month/year) 07.08.2003	Priority date (day/month/year) 08.08.2002
International Patent Classification (IPC) or both national classification and IPC A01N47/36		
Applicant SYNGENTA PARTICIPATIONS AG		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 6 sheets, including this cover sheet.
- ☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).
- These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the opinion
- II ☐ Priority
- III ☒ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 21.02.2004	Date of completion of this report 22.03.2004
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Bertrand, F Telephone No. +49 89 2399-8606 

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International application No. **PCT/EP 03/08791**

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-9 as originally filed

Claims, Numbers

1-3 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

see separate sheet

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III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application,

☒ claims Nos. 1-3, all partly

because:

☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (specify):

☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☒ no international search report has been established for the said claims Nos. 1-3, all partly

2. A meaningful international preliminary examination cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:

☐ the written form has not been furnished or does not comply with the Standard.

☐ the computer readable form has not been furnished or does not comply with the Standard.

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-3
	No: Claims	
Inventive step (IS)	Yes: Claims	1-3
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-3
	No: Claims	

2. Citations and explanations

see separate sheet

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Re Item I

Basis of the report

The documents mentioned in this International Preliminary Examination Report are numbered in accordance with the order they appear in the International Search Report.

Re Item III

Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The ISA concluded to a non-compliance with Rule 13 PCT, since the present application relates to 53 different (non unitary) inventions as follows:

1. Invention 1: synergistic herbicidal composition containing tritosulfuron and amidosulfuron, and
2. Inventions 2-53: the 52 other synergistic herbicidal compositions resulting from the combination of the 3 first components and the 27 second components minus the first invention listed above and minus the 28 exceptions listed in present claim 1.

The present application claims 53 different synergistic herbicidal mixtures of one of 3 compounds a) and at least one of 27 compounds b), except 28 combinations of those as listed in claim 1; thus not fulfilling the criteria of unity (Rule 13 PCT). Indeed, the 53 inventions are listed on page 3 of the present description. The proviso in claim 1 can be due either to the fact that these combinations are known or that they do not solve the technical problem underlying the present invention. In either case, they break the linking concept between all the listed inventions.

There are a priori 3 inventions, i.e. mixtures with each of the components a), since synergistic herbicidal mixtures are well known in the art and the components a) do not share any further relevant property or structural feature. Moreover, a posteriori, the documents mentioned in the partial search report (WO0135741, WO0174157) disclose synergistic herbicidal mixtures containing each of components a).

Further, the linking concept within each of said 3 inventions, i.e. synergistic herbicidal mixtures of each of the components a) with an (any) herbicide, is well known (see above), since the components b) as a whole do share only their herbicidal properties. Although

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some of the compounds b) show common structural features, they cannot be brought together to form a subgroup for the following 2 reasons:

1- some of them (e.g. the sulfonylureas) do not represent the whole class of known compounds to which they belong, far from it. Since a synergistic effect has up to now always been considered as basically unpredictable, the selection within such a class made in the present claims must be considered as made on purpose. In such a case, the invention cannot be extrapolated to a whole class of compounds, and thus, the a priori linking concept constituted by the class is void.

2- some compounds of an a priori subgroup (e.g. ioxynil) are excluded in the proviso whereas the others of the same subgroup are not (e.g. bromoxynil). The applicant himself making a distinction between these compounds, it is hardly possible to consider them as possibly linked.

In any case, due to the explicitly specific wording used to designate the components used and to the unpredictable aspect of synergy, a search cannot reasonably focus on classes of herbicides. Rather, it must specifically address separately each individual component named. This cannot be done without major additional search effort. Consequently, with due regard to the teaching of T110/82 (OJ EPO 1983 pp.274-281), the number of subjects to be searched cannot be reduced.

No further search fees having been paid, only invention 1 has been searched. Consequently, the present IPER solely relates to this invention 1.

Re Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

The priority rights pertaining to the present application were not checked at the time of establishing this IPER. Hence, it is based on the assumption that all claims enjoy priority rights from the filing date of the priority document. The document D1 mentioned below could become relevant when assessing novelty and inventive step in the later regional/national phase.

In this respect, the applicant's attention is drawn to the fact that D1, claim 1 unambiguously

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discloses the present invention 1.

Certain published documents (Rule 70.10)

Application No Patent No	Publication date (day/month/year)	Filing date (day/month/year)	Priority date (valid claim) (day/month/year)
WO 03/009684	06.02.2003	12.07.2002	21.07.2001

D3 is not considered to be relevant for the present invention 1.

D2 discloses synergistic herbicidal compositions based upon tritosulfuron and a further herbicide, as well as optionally a third herbicide (e.g. amidosulfuron). To prepare compositions corresponding to the present claims, the skilled reader would have had to decide first to actually add a 3rd herbicide and then to select amidosulfuron. He would have had no specific reason to do so, since the synergy with this 3rd herbicide is not clearly taught. Moreover, D2 does not disclose any ternary composition in the examples, let alone with amidosulfuron. The synergy being generally considered to be unpredictable, the present invention 1 is considered to be neither comprised within nor derivable from D2, thus fulfilling the criteria of Art.33(2)and(3)PCT.

The present invention fulfills the criteria of Article 33(4) PCT, because the subject-matter of the present claims is industrially applicable.